Abstract

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Project Title: Conducting a HTS against a Multi-protein DNA Replication System

Abstract: *DESCRIPTION* (provided by applicant): High throughput screens for the replication elongation systems of important pathogens have been developed initially by the McHenry Laboratory in collaboration with Replidyne, a biotechnology company founded by Charles McHenry. Garry Dallmann was also employed at Replidyne as Director of Lead Discovery for a period of 2.5 years. This collaboration enabled significant successes in assay development and finding a plethora of promising hits and early leads, but little has emerged that adds broadly to the scientific community's knowledge of DNA replication, general principles of drug design against DNA replication targets, or reagents useful for 'chemical genetics' approaches to study of DNA replication and coupled processes. This is largely due to a process characterized by weeding out compounds not suited, with other than minimal modification, for human use. This process was perhaps necessary for meeting Replidyne's short-term objectives, but as a result, many valuable compounds were passed over with no substantial characterization, depriving the scientific community at large of knowledge of potential drug target sites or reagents useful as research tools. Due to Replidyne policies pertaining to the protection of 'intellectual property,' these compounds remain unavailable to the McHenry laboratory and researchers outside of the company. In spite of significant success with the replication program, all compounds have been set aside by the company, and Replidyne's resources are being devoted to late stage in-licensed assets (disclosed on the company's web site). To position the McHenry laboratory to serve broader scientific and human health interests, Dr. McHenry and Dr. Dallmann have ended their relationships with Replidyne in all capacities (i.e. as an employee, officer or director or consultant). Because the resources of Replidyne are not available to the general scientific community, some efforts within this application duplicate activities that have already taken place within the company. This is necessary though, to reach a place where the technology can be both extended and applied in a manner that advances our communal scientific knowledge.

Thesaurus Terms:
High throughput screening, DNA replication, chemical genetics, pathogens, hits, general principles of drug design, DNA replication targets, DNA replication

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